

27697  
S/120/61/000/003/007/041  
E032/E314

21,6000

AUTHORS: Baranov, P.S., Slovokhotov, L.I., Sokol, G.A. and  
Shtarkov, L.N.

TITLE: A Differential Method for Determining the Efficiency  
of a  $\gamma$ -counter

PERIODICAL: Priory i tekhnika eksperimenta, 1961, No. 3,  
pp. 63 - 66

TEXT: The present authors describe a method which can be  
used to determine the efficiency of a  $\gamma$ -counter in the energy  
range up to some hundreds of MeV. The method is based on the  
recording of coincidences between the proton and the  $\gamma$ -ray which  
appear during the photo-production of neutral mesons on hydrogen.  
A block diagram of the apparatus is shown in Fig. 2. The  $\gamma$ -ray  
beam has a maximum energy of 265 MeV and was obtained from the  
synchrotron of the Physics Institute of the AS USSR. It was  
collimated by two lead collimators before reaching the liquid-  
hydrogen target. The latter consisted of a thin-walled  
container (brass wall 15 mg/cm<sup>2</sup> thick) having a volume of  
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A Differential Method ....

100 cm<sup>3</sup>. Protons from the reaction:

$$\gamma + p = p + \pi^0 \quad (1)$$

$$\pi^0 = 2\gamma \quad (2)$$

passed through aluminum windows (250  $\mu$ ) and were recorded by a telescope consisting of three proportional counters connected in coincidence (resolution equals  $2 \times 10^{-6}$  sec) and a single scintillation counter connected in coincidence with a  $\gamma$ -ray counter (resolving time of the fast coincidence circuit:  $5 \times 10^{-9}$  sec). The proton telescope records protons with energies  $E_p \pm \Delta E_p$ , where  $\Delta E_p$  is determined by an absorber placed in front of the telescope and the discriminator of the third counter. The protons are separated from the charged mesons in the first and second counters of the telescope, using the difference in the specific energy losses of these particles.

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A Differential Method ....

The  $\gamma$ -counter consists of two scintillators (3.5 g/litre solution of para-terphenyl in phenyl-cyclohexane). The scintillators are 15 cm in diameter and 3 cm thick and are mounted on  $\Phi\gamma$ -33 (FEU-33) photomultipliers. In order to increase the efficiency of the  $\gamma$ -counter lead converters, 0.8 cm thick, were placed in front of the counters. The scintillation counter in the proton telescope consisted of a plastic scintillator (terphenyl in polystyrene), 0.5 cm thick and 6 cm in diameter. It was mounted on a perspex light pipe and an FEU-33 photomultiplier. Recording of the coincidences between the scintillation channels was achieved with the "fast" coincidence circuit described by A.A. Rudenko (Ref. 1 - PTE, 1958, No. 6, 60). The resolution and efficiency of this coincidence circuit was checked in special experiments. The efficiency of recording of the coincidences turned out to be 95% In these experiments there was an appreciable proton background due to the target walls and the Compton scattering of the  $\gamma$ -rays

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$$\gamma + p = \gamma' + p'$$

(5) .

The proton background was determined with an empty target and was found to be 10%. The proton yield, due to the reaction (5) was neglected since the corresponding reaction cross-section was lower by two orders of magnitude than the cross-section of the reaction (1). On the other hand, the  $p\gamma$ -coincidence background can be excluded entirely by suitable disposition of the proton telescope in the  $\gamma$ -counter. Fig. 3 shows the efficiency of the  $\gamma$ -counter  $\eta$  (in %) as a function of the  $\gamma$ -ray energy in MeV. The points are experimental and the curve is calculated from the formula

$$\eta = [1 - \exp(-2\mu T)] \frac{(bT - 1, y_0)!}{\Gamma(bT)} \quad (6)$$

where  $\mu$  is the  $\gamma$ -ray absorption coefficient for lead

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A Differential Method ....

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(Ref. 2 - Heitler, V. - Quantum Theory of Radiation, 1956, Izd-vo IL),  $T$  is the thickness of the lead converter,  $(bT - 1, y_0)!$  is the incomplete gamma-function,  $b = 2.6 \text{ cm}^{-1}$  (for Pb),  $y_0 = \ln(E_e^{\text{max}}/E_e^{\text{min}})$ ,  $E_e^{\text{max}}$  is the maximum electron energy and  $E_e^{\text{min}}$  is the minimum electron energy corresponding to the threshold of the fast coincidence circuit (2 MeV). If the proton telescope records only protons with energies  $E_p \pm \Delta E_p$ , leaving at an angle  $\theta_p \pm \Delta \theta_p$  to the direction of the primary photon beam, then the kinematics of the photo-production of  $\pi^0$ -meson (1) and the  $\pi^0$ -meson decay (2) can be used to determine the energy spread of the  $\gamma$ -rays recorded in coincidence with the protons. Acknowledgements to P.A. Cherenkov for his interest and to T.I. Kovalova for taking part in the construction of the fast coincidence circuit.

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A Differential Method ....

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There are 3 figures and 2 Soviet references.

ASSOCIATION: Fizicheskiy institut AN SSSR (Physics  
Institute of the AS USSR)

SUBMITTED: August 3, 1960

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S/056/61/041/006/004/054  
B108/B138

AUTHORS: Baranov, P. S., Slovokhotov, L. I., Sokol, G. A., Shtarkov, L.N.

TITLE: Elastic scattering of 247-Mev gamma quanta from hydrogen

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 41,  
no. 6(12), 1961, 1713-1721

TEXT: Experimental data are very scarce on elastic gamma scattering from hydrogen involving energies higher than the meson photoexcitation threshold. Such information is indispensable in establishing a theory of Compton effect in this energy region, and may provide information on proton structure. The authors studied the angular distribution of gamma quanta, with energies of  $(247 \pm 10)$  Mev, scattered from liquid hydrogen. The coincidences of scattered gamma quanta and recoil protons were recorded. By determining the energy of the recoil protons at a fixed gamma energy, the desired process  $\gamma + p \rightarrow p' + \gamma'$  (1) could be distinguished from the background process  $\gamma + p \rightarrow p' + \pi^0$  (2)

$$\begin{array}{c} \gamma_1 + \gamma_2 \end{array}$$

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S/056/61/041/006/004/054  
B108/B138

Elastic scattering of 247-Mev...

Results are given in the Table. The error in the cross section of reaction (1) is about  $\pm 15\%$ . Only for departure angles of 56 and  $74^\circ$  (c.m.s.) of the gamma quanta does the error amount to some 25%. The results are in qualitative agreement with those of other publications. Discrepancies between the experimental results and theoretical calculations on the basis of one-dimensional dispersion relations are mainly due to deficiencies in the theory. The studies were made at the synchrotron of the Lebedev Physics Institute (see Association entry). The authors thank Professor P. A. Cherenkov, Professor V. I. Gol'danskiy, Doctor of Physics and Mathematics A. M. Baldin, and the synchrotron team for their collaboration. N. N. Bogolyubov, D. V. Shirkov (DAN SSSR, 113, 529, 1957), L. I. Lapidus, Chou Kuang-chao (ZhETF, 39, 1056, 1960), and N. F. Nelipa, L. V. Fil'kov (Preprint FIAN, A-2, 1961) are mentioned. There are 5 figures, 1 table, and 17 references: 9 Soviet and 8 non-Soviet. The three most recent references to English-language publications read as follows: M. Jakob, J. Mathews. Phys. Rev., 117, 854, 1960; R. Blokil et al. Phys. Rev. Lett., 2, 384, 1960; A. V. Tollestrup et al. Proc. 1960. Ann. Intern. Conf. on High Energy Physics at Rochester, p. 27.

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Elastic scattering of 247-Mev...

S/056/61/041/006/004/054  
B108/B138

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva Akademii nauk SSSR  
(Physics Institute imeni P. N. Lebedev of the Academy of  
Sciences USSR)

SUBMITTED: June 9, 1961

Legend to the  
Table: (1)  
degrees, (2)  
laboratory system,  
(3) center of mass  
system, (4) ratio  
( $\times 10^4$ ) of the  
products of  
reaction (1) to  
reaction (2),  
(5)  $\text{cm}^2/\text{steradian}$ .

$\theta_p$ град	$\theta_{\gamma}$ град	$\theta_{\gamma}$ град	$\theta_p$ (л. с.), град	$\Delta \theta_p$ (л. с.), град	$\theta_{\gamma}$ (с. ц. м.), град	$E_{\gamma}$ MeV	$\Delta E_{\gamma}$ MeV	Отношение выходов (х $10^4$ ) реакц. (1) и (2)	$\frac{d\sigma}{d\Omega} / (\frac{\text{с. п. м.}}{\text{МэВ}})^2$
16	140	104	15,5	$\pm 1,65$	148,0	247,7	$\pm 5$	$140 \pm 12$	$4,17 \pm 0,35$
24	121	94	23,5	$\pm 1,70$	132,2	247,8	$\pm 5$	$110 \pm 9,0$	$3,33 \pm 0,28$
36	94	140	35,0	$\pm 1,70$	108,8	247,2	$\pm 5$	$74 \pm 8,0$	$3,09 \pm 0,33$
44	78	—	42,5	$\pm 1,70$	83,1	245,2	$\pm 6$	$25,7 \pm 2,7$	$2,08 \pm 0,24$
58	58	94	54,5	$\pm 2,0$	70,3	237,0	$\pm 15$	$9,43 \pm 1,37$	$1,60 \pm 0,20$
84	42	76	62,0	$\pm 2,0$	54,8	232,6	$\pm 15$	$8,07 \pm 1,07$	$1,34 \pm 0,18$

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SOKOL, G.A.

BARANOV, P. S.; SLOVOKHOTOV, L. I.; SOKOL, G. A.; SHTARKOV, L. N.

"Elastic Scattering of  $\gamma$ -Rays by Hydrogen at the Energy 247 MEV"

report presented at the Intl. Conference on High Energy Physics, Geneva,  
4-11 July 1962

L 23745-66 EWT(1)/EWT(m) I  
ACC NR: AP6007216 SOURCE CODE: UR/0056/66/050/002/0364/0366  
AUTHORS: Baranov, P. S.; Slovokhotov, L. I.; Sokol, G. A.; 36  
Shtarkov, L. N. B  
ORG: Institute of Physics im. P. N. Lebedev, Academy of Sciences,  
SSSR (Fizicheskiy institut Akademii nauk SSSR)  
TITLE: Refinement of the experimental values of the Compton effect  
cross sections for the proton 19  
SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 50,  
no. 2, 1966, 364-366  
TOPIC TAGS: Compton effect, proton interaction, differential cross  
section, angular distribution, gamma quantum  
ABSTRACT: This is a continuation of earlier work on the angular de-  
pendence of the Compton effect cross section for the proton at an  
average gamma-quantum energy of 247 Mev (ZhETF v. 41, 1713, 1961). In  
the present work the authors calculate the differential cross sec-  
tions for the Compton effect on the proton at gamma quantum energies  
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ACC NR: AP6007216

from 230 to 250 Mev, using a more accurate analysis and making absolute the earlier experimental data. The analysis of the earlier data was with the aid of an electronic computer, so that the approximations of the original analysis could be eliminated. The more accurate values are approximately 20 -- 30% higher than in the earlier work, but the angular distribution has not changed noticeably. The total cross section obtained for the Compton effect at 248 Mev is  $(95.0 \pm 9.3) \times 10^{-32}$ . Orig. art. has: 3 formulas and 1 table.

SUB CODE: 20/ SUBM DATE: 01Sep65 ORIG REF: 002/ OTH REF: 004

Card

2/2 ULR

2 116, 604  
SOKOL, G.M.

Joint plenum of republic scientific societies of surgeons, orthopedists, and traumatologists of the Ukrainian S.S.R. Ortop.travm.

i protez. no.4:79-83 J1-Ag '55.

(MLRA 8:10)

(UKRAINE--SURGERY--SOCIETIES) (UKRAINE--ORTHOPEDIA--SOCIETIES)

SOKOL, G.M.

Dynamics of clinical X ray and laboratory data on vertebra plana of the lumbar region (Calve's disease). Ortop., travm. i protez. 17 (MIRA 9:12)  
no.1:48-49 Ja-F '56.

1. Iz Ukrainського nauchno-issledovatel'skogo instituta ortopedii i travmatologii imeni M.I.Sitenko (dir. - zasluzhennyi deyatel' nauki prof. N.P.Novachenko)

(SPONDYLITIS

post-traum. vertebra plana, case report)

SOKOL, G.M.

Report on the activities of the Ukrainian Republic Medical Society of  
Traumatologists and Orthopedists. Ortop., travm. i protez. 17 no.2:  
76-77 Mr-Ap '56. (MLRA 9:12)

1. Sekretar' pravleniya Ukrainskogo respublikanskogo nauchno-meditsin-  
skogo obshchestva travmatologov i ortopedov.  
(ORTHOPEDIA)

~~SOKOL, G.M.~~

Three cases of chondromatosis of the ankle joint. Ortop.travm. i  
protez. 17 no.6:95-96 N-D '56. (MLRA 10:2)

1. Iz Ukrainskogo nauchno-issledovatel'skogo instituta ortopedii  
i travmatologii im. M.I.Sitenko (direktor - zasluzhennyi deyatel'  
nauki professor N.P.Novachenko)  
(ANKLE--DISEASES)



SOKOL, G.M.

Materials on hematological and hemodynamic changes in endarteritis.  
obliterans. Ortop.travm. i protez. 17 no.6:102-103 N-D '56.  
(MLRA 10:2)

1. Iz kafedry obshchey khirurgii (zaveduyushchiy - professor  
S.L.Minkin) lechebnogo fakul'teta Khar'kovskogo meditsinskogo  
instituta (direktor - dotsent I.F.Kononenko)  
(ARTERIES--DISEASES) (BLOOD--ANALYSIS AND CHEMISTRY)

SOKOL, G.M.; RYZHIK, A.R.

Controlling home and street accidents in Kharkov. Ortop.travm. i  
protez. 17 no.6:130-131 N-D '56. (MLRA 10:2)

1. Iz Ukrainskogo nauchno-issledovatel'skogo instituta ortopedii i  
travmatologii im. M.I.Sitenko (direktor - zasluzhennyy deyatel'  
nauki professor M.P.Novachenko)  
(KHARKOV—ACCIDENTS--PREVENTION)

SOLOV, G.M., Cand Med Sci--(disc) "Haematological and kinodynamic data  
in obliterating endocarditis." Khar'kov, 1958. 14 pp (Min of Health UkrSSR,  
Khar'kov State Med Inst), 200 copies (IL, 49-58, 123)

SOKOL, G.M. (Khar'kov)

Plaster cast technicians. Med.sestra 17 no.11:46 N'58 (MIRA 11:11)  
(PLASTER CASTS, SURGICAL)

SOKOL, G.M.,

School injuries in Kharkov and measures for their prevention.  
Trudy Ukr. nauch.-issl. inst. ortop. i travm. no.15:145-149  
'59. (MIRA 16:12)

1. Iz Ukrainського nauchno-issledovatel'skogo instituta ortopedii i travmatologii imeni prof. M.I.Sitenko (dir.-chlen-korrespondent AMN SSSR, prof. N.P.Novachenko).

SOKOL, G.M., kand.med.nauk

Result of ambulatory therapy of endarteritis obliterans with  
pachycarpine. Vest.khir. 85 no.10:130-133 0 '60. (MIRA 13:12)

1. Iz Ukrainського nauchno-issledovatel'skogo instituta ortopedii  
i travmatologii im. prof. M.I. Sitenko (dir. - prof. N.P. Nova-  
chenko).

(PACHYCARPINE)

(ARTERIES—DISEASES)

PRIKHOD'KO, A.K., dotsent; SOKOL, G.M., kand.med.nauk

Surgical treatment of tuberculous trochanteritis. Ortop.travm.  
i protez. no.6:35-39 '61. (MIRA 14:8)

1. Iz Ukrainського nauchno-issledovatel'skogo instituta ortopedii  
i travmatologii im. M.I. Sitenko (dir. - chlen-korrespondent AMN  
SSSR prof. N.P. Novachenko).  
(FEMUR—TUBERCULOSIS)

SOKOL, G.M. (Khar'kov)

First description of endarteritis obliterans. Zhur.nevr.i psikh.  
61 no.3:460-461 '61. (MIRA 14:7)  
(THROMBOSIS)



BERDASHKEVICH, Ya.A.; BELOUS, A.M.; DOROVITSKAYA, A.I.; YENGALICH-VA, N.A.;  
POGREBNYAK, B.A.; SOKOL, G.M.; TARASENKO, N.N.

Occurrence of traumatic orthopedic diseases among rural and  
urban population. Ortop., travm. i protez. 26 no.11:60-66  
N '65. (MIRA 18:12)

1. Iz Khar'kovskogo instituta protezirovaniya, travmatologii  
i ortopedii imeni M.I. Sitenko (direktor - chlen-korrespondent  
AMN SSSR prof. N.P. Novachenk). Adres avtorov: Khar'kov,  
Pushkinskaya ul. d. 80, Institut imeni M.I. Sitenko.



ANTONOVICH, V.I.; BORISENKO, I.V.; MOLCHAGINA, R.P.; SOKOL, G.P.

Distribution of proteins and enzymes in the subcellular  
hepatic structures and morphological characteristics in  
experimental chronic alcohol intoxication. Akt.vop.pat.pesh.  
no.3:197-209 '65. (MIRA 18:11)

SOKOL, H.

Influence of training within the industry on training competition  
among the factories of the button industry. p. 159

Vol. 6, no. 8, August 1955  
ODZIEZ  
Lodz

SOURCE: Monthly list of East European Accessions (EEAL) LC Vol. 5, no. 2  
February 1956

SOKOL, H.

Training repairment of the machines and equipment in the button and fancy-goods industry. p.136

(ODZIEZ, Vol. 8, No. 5, May 1957, Lodz, Poland)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, No. 9, Sept. 1957, Uncl.

SOKOL, HENRYK

KOMOROWSKA, Alina; SOKOL, Henryk

Primary fallopian cancer. Gin. polska 28 no.5:545-550 Sept-Oct 57.

1. Z I Kliniki Poloznictwa i Chorob Kobietych A. M. w Lodzi. Kierownik:  
prof. dr med. J. Sieroszewski. Adres: dr Henryk Sokol - Lodz, PWN 4.  
(FALLOPIAN TUBES, neoplasms  
case report (Pol))

SOKOL, Henryk

Evaluation of a new reagent determining the fertility period  
("Fertility-Tape"). Pol. tyd. lek. 20 no.30:1114-1116 26 J1 '65.

1. Z Katedry i Kliniki Ginekologii i Poloznictwa Wojskowej AM  
w Lodzi (Kierownik: prof. dr. Jerzy Pertynski).

SOKOL, I.; TVARDOVA, M.; VENGRINOVA, J.

Mental hygiene problems among school children. *Activ. nerv. sup.* 4  
no.2:196 '62.

1. Krajska detska psychiatricka poradna, KUNZ, Ostrava I.

(MENTAL HYGIENE in inf & child)



CZECHOSLOVAKIA

O. KUPPEL, I. SOKOL, A. TOPIAR and F. UHLIR, Psychiatric Hospital  
(psychiatricka lecebna,) Opava.

"Comparison of Effectiveness of Ataractics and Classical Therapy in  
Schizophrenia."

Prague, Activitas Nervosa Superior, Vol 5, No 2, May 63; p 194.

Abstract: Conclusions but no data from a clinical study: hospitalization  
is significantly longer in patients treated with classical methods (ECT,  
insulin) alone or in combination with ataractics, but duration of  
remission is greatest after classical methods too. Classical Methods +  
ataractics produce longer hospitalizations than classical methods alone.  
Until the third remission, the number of remissions is equal for all  
groups.

1/1

KUMPEL, Q.; SOKOL, I.; TOPIAR, A.; OHLIR, F.

Catamnestic study in schizophrenic patients from the viewpoint  
of their social assertion. Aktiv. nerv. sup. 6 no.1:101 '64.

\*

L 29416-66

ACC NR: AP6019956

SOURCE CODE: CZ/0079/65/007/003/0243/0243

AUTHOR: Hrebicek, S.; Kumpel, Q.; Sokol, I.; Topiar, A.; Grumlik, R.; Uhlik, F.

ORG: Psychiatric Hospital, Opava (Psychiatricka lecebna)

TITLE: Comparison of effects of classical and combined therapy in schizophrenia  
This paper was presented at the 7th Annual Psychopharmacological Meeting, Jesenik, 22  
20-23 January 1965

SOURCE: Activitas nervosa superior, v. 7, no. 3, 1965, 243

TOPIC TAGS: therapeutics, psychoneurotic disorder, drug treatment

ABSTRACT: Pacification of the florid schizophrenic, his social-  
ization, and his contact with the physician were investigated.  
91 schizophrenic patients admitted to authors' hospital in 1954-  
1961 were studied. 39 patients received the classical convul-  
sive treatment and 52 the combined treatment. 76 patients im-  
proved during the treatment and 15 did not change. Those who  
did not improve received the classical convulsion treatment. A  
significant difference in favor of the combined treatment in-  
cluding psychopharmacological treatment was noticed. An average of  
29 days was needed to attain manageability using drugs, compared  
with 42 days with the shock treatment. For sociability the  
periods were 41 and 54, respectively, and for care of appearance  
24 and 40. [Orig. art. in Eng.] [JPRS]

SUB CODE: 06/ SUBM DATE: none

Card 1/1 CC

84636

S/135/60/000/011/013/016  
A006/A001

18-7200 1566, 2308 only

AUTHORS: Akulov, A.I., Candidate of Technical Sciences, Spitsyn, V.V.,  
Sokol, I.A., Engineers

TITLE: The Use of Nitrogen-Hydrogen Mixture for Backing the Reverse Side  
of Welds ✓ ✓

PERIODICAL: Svarochnoye proizvodstvo, 1960, No. 11, pp. 38-39

TEXT: When welding important stainless steel pipelines the internal space of the pipes is filled with argon to back and improve the formation of the reverse side of welds. The "Soyuzprommontazh" Trust at the Stalinogorsk Chemical Combine replaced the expensive argon by a cheaper nitrogen-hydrogen mixture. To select an optimum backing gas medium, the MVTU imeni Bauman welding laboratory together with "Soyuzprommontazh" investigated the effect of various gases and mixtures on mechanical and corrosion properties of weld joints. Welding tests were made with 200 x 4 and 89 x 3 mm diameter V4A steel pipes and with 76 x 5 mm diameter 1X18H9T (1Kh18N9T) steel pipes using the following backing gases: argon of first composition; nitrogen with 2% oxygen; a mixture of 86% nitrogen and 14% hydrogen; a mixture of 93% nitrogen and 7% hydrogen. In the two latter

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S/135/60/000/011/013/016

A006/A001

The Use of Nitrogen-Hydrogen Mixture for Backing the Reverse Side of Welds

mixtures the oxygen content was 1.8%. The pipes were also welded without a backing gas medium. Welding was performed manually in two layers with unconsumable tungsten electrodes and V-shaped beveling of edges. The welding conditions were: 110 - 120 amps d.c. of direct polarity; 12-13 v arc voltage; 15 l/min. argon consumption. For V4A steel a welding wire of the same composition and 2 mm diameter was used, and for 1Kh18N9T steel a Sv-1Kh18N9T welding wire of 3 mm in diameter. Best results were obtained with a 93% nitrogen - 7% hydrogen mixture ensuring a sufficient reduction of oxides and a satisfactory shape of the reverse weld. Moreover this mixture is explosion-safe. Mechanical and corrosion properties of the welds were not affected and remained practically constant. About 100,000 rubles were saved during assembling technological pipelines of the Stalinogorsk chemical combine alone. There are 1 table and 2 figures. ✓

ASSOCIATION: MVTU imeni Bauman (Spitsyn and Akulov) "Sovuzprommontazh" Trust  
(Sokol)

Card 2/2

AKULOV, A.I., kand.tekhn.nauk; SPITSYN, V.V., inzh.; SOKOL, I.A., inzh.

Argon-arch welding of alloy steel pipes using hydrogen  
nitrate protecting and molding mixes. Mont.i spets.rab.v  
stroil. 22 no.9:8-12 S '60. (MIRA 13:8)

1. Moskovskoye vyssheye tekhnicheskoye uchilishche imeni  
Baumana i trest Soyuzprommontazh.  
(Pipe, Steel--Welding)

AKULOV, Aleksandr Ivanovich, kand. tekhn. nauk; SOKOL, Isaak-  
Abramovich, inzh.; KOPERIN, V.V., inzh., nauchnyy red.;  
PEREVALYUK, M.V., red.izd-va; NAUMOVA, G.D., tekhn. red.

[Welding nonferrous metal pipelines] Svarka truboprovodov iz  
tsvetnykh metallov. Moskva, Gosstroizdat, 1962. 140 p.

(MIRA 16:3)

(Pipelines--Welding) (Nonferrous metals--Welding)

ACCESSION NR: AR4015544

S/0137/63/000/011/E017/E017

SOURCE: RZh. Metallurgiya, Abs. 11E122

AUTHOR: Sokol, I.A.; Gushchev, A.Ye.

TITLE: Argon arc welding of alloy steel pipes

CITED SOURCE: Sb. Progressivn. metody\* svarki na montazhn. rabotakh. M., 1962, 133-142

TOPIC TAGS: argon arc welding, arc welding, pipe welding, steel pipe welding

TRANSLATION: The manual Ar-arc welding of alloy steel pipes is performed with the AR-9 torch designed by the NIAT (Nauchnyy Institut Aviatsionnoy Tekhnologii -- Scientific Research Institute of Aviation Technology). It is universal and uses various W-electrode diameters (1-6 mm), which makes possible the welding of pipes of differing wall thickness. Automatic Ar-arc welding makes possible the joining of straight alloy steel pipe sections 8-219 mm in diameter; it can be performed with consumable and non-consumable electrodes. In the welding of pipes 8-26 mm in diameter with a wall thickness of 1-1.5 mm, the NIAT MS-19 and NIIKHIMASH

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ACCESSION NR: AR4015544

(Nauchno-Issledovatel'skiy Institut Khimicheskogo Mashinostroyeniya -- Scientific Research Institute of Chemical Machine Building) AGN-8-26 welders are used. 15-219 mm pipes are welded with the ATV units designed at the NIAT. V. Fomenko.

DATE ACQ: 09Dec63

SUB CODE: ML

ENCL: 00

Card 2/2

MEL'NIKOV, G.D., inzh.; SOKOL, I.A., inzh.

Recording device with magnetic memory. Elek. sta. 34 no.8:61-  
62 Ag '63. (MIRA 16:11)

VERVEYKINA, A.K., inzh.; KOLCHINSKIY, Yu.L., inzh.; NIKOLAYEVSKIY,  
Ye.Ya., inzh.; RODIONOVA, R.G., inzh.; RYAPOLOV, A.F., inzh.;  
SOKOL, I.A., inzh.; STERLIN, S.L., inzh.; EYDEL'NANT, L.B.,  
inzh.; ORLOV, V.M., kand. tekhn. nauk retsenzent; YURGEL', B.I.,  
inzh., retsenzent; FOKIN, V.Ya., inzh., ~~tekhn.~~ red.; VOLNYANSKIY, A.K.  
red.; MARKOV, I.I., red.; MEL'NIK, V.I., red.; ONKIN, A.K.,  
red.; STAROVEROV, I.G., red.; TUSHENYAKOV, M.D., red.; CHERNOV,  
A.V., red.; SUDAKOV, G.G., red.; IOSELOVSKIY, I.V., red.

[Technological pipings in industrial enterprises] Tekhnologi-  
cheskie truboprovody promyshlennykh predpriyatii. Moskva,  
Stroiizdat. Pt.1. 1964. 784 p. (MIRA 18:9)

VERVEKINA, A.K., inzh.; KOLCHINSKIY, Yu.L., inzh.; NIKOLAYEVSKIY, Ye.Ye., inzh.; RODIONOVA, R.G., inzh.; RYAPOLOV, A.F., inzh.; SOKOL, I.A., inzh.; STERLIN, S.L., inzh.; EYDEL'MANT, L.B., inzh.; ORLOV, V.M., kand. tekhn. nauk, retsenzent; YURGEL', B.I., inzh., retsenzent; FOKIN, V.Ya., inzh., nauchn. red.; VOLNYANSKIY, A.K., glav. red.; SUDAKOV, G.G., zam. glav. red.; IOSELOVSKIY, I.V., red.; MARKOV, I.I., red.; MEL'NIK, V.I., red.; ONKIN, A.K., red.; STAROVEROV, I.G., red.; TUSHIYAKOV, M.D., red.; CHERNOV, A.V., red.

[Engineering pipelines for industrial enterprises] Tekhnologicheskie truboprovody promyshlennykh predpriatii. Moskva, Stroiizdat, 1964. 2 v. (MIRA 17:12)

L-36260-65 EWT(m)/EWP(w)/EWA(d)/EPR/T/EWP(t)/EWP(k)/EWP(b)/EWA(c) Pf-4/ps-4  
IJP(c) NJW/JD/H

ACCESSION NR: AP4047504

S/0129/64/090/010/0015/0021

AUTHOR: Sokol, I. Ya.

TITLE: Investigation of the processes of work hardening and embrittlement in austenitic-ferritic stainless steels

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 10, 1964, 15-21, and top half of insert facing p. 25

TOPIC TAGS: structure, mechanical property, austenitic ferritic steel, aging, brittleness, titanium, aluminum

ABSTRACT: The paper deals with the structure and properties of OKh25N12G2T austenitic ferritic steel. 120 to 180 mm long specimens having a 2 to 5 mm diameter were water quenched from 1050 to 1250 C and aged for 2 to 480 minutes at 300 to 900 C. Within the 65 to 900 C range and between 400 and 600 C plastic properties deteriorated. The aging is attributed to the formation of finely dispersed  $Ni_3Ti$  or  $Ni_3(Ti, Al)$  phases depending on the amount of residual Al. In

Card 1/2

L 36200-65

ACCESSION NR: AP4047504

holding over 60 minutes at 450 to 500 C, aging is accompanied by the ordering of chromium ferrite solid solution which leads to 475C brittleness. Specimens with 1.72% Ti hardened at 1150 to 1250 C display lower plasticity, improved work hardening, increased magnetic saturation and higher specific resistance. Apparently, the solubility of alloying elements changes appreciably during heating, bringing about aging despite subsequent drastic cooling. Orig. art. has: 6 figures and 4 tables.

ASSOCIATION: Zavod "Serp i molot" ("Hammer and Sickle" Plant)

SUBMITTED: 00

ENCL: 00

SUB CODE: MM

NR REF SOV: 002

OTHER: 000

Card 2/2

JO

L 35038-65 EPA(s)-2/EWT(m)/EWP(w)/EPF(c)/EWA(d)/EWP(v)/EPR/T/EWP(t)/EWP(k)/EWP(b)/  
 ACCESSION NR: AP5007007 ERA(c) Pf-4/Pr-4/Ps-4 S/0129/65/000/003/0045/0047  
 IJP(c) MJN/JD/HM

AUTHOR: Sokol, I. Ya.

TITLE: Effect of heat treatment on the brittleness of ferritic-austenitic steels

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 3, 1965, 45-47,  
 and bottom half of insert facing p. 40

TOPIC TAGS: ferritic austenitic steel, steel embrittlement, steel heat treatment,  
 heat treated steel property, ferritic austenitic steel brittleness/1Kh21N5T steel,  
 OK21N5T steel

ABSTRACT: The nature of the strengthening and embrittlement of certain heats of  
 1Kh21N5T(EI811) and OKh21N5T(EP53) steels caused by tempering at 450-650C has been  
 studied. It was found that in steels with a high content of excess titanium,  
 $\Delta Ti = Ti - 4(C + N)$ , tempering at 450-550C (after annealing at 1000C) produces the  
 precipitation of secondary phases, i.e., intermetallic compounds,  $NiTi$ ,  $Ni_3Ti$ , or  
 (if the Al content is sufficiently high)  $Ni_3(TiAl)$ , which considerably increase  
 strength and lower ductility. Annealing at higher temperatures (1200-1250C) pro-  
 duces a fully ferritic structure and substantially increases the embrittling effect  
 of aging, although annealed steel is sufficiently ductile at room temperature de-  
 spite its coarse grain structure. Reheating of metal with such a structure to

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L 35038-65

ACCESSION NR: AP5007007

700—1000C leads to the formation of lamellar secondary austenite at ferritic grain boundaries. This austenite reduces considerably the embrittling effect of tempering. If, however, this austenite is transformed to martensite (in steels with a low content of austenitizers), the precipitation of secondary phases occurs in ferrite as well as in martensite and the notch toughness in this case drops to less than 1 mkg/cm<sup>2</sup>. Steels with a low  $\Delta T_i$  are much less susceptible to embrittlement, and their notch toughness after aging remains at the level of 10 mkg/cm<sup>2</sup>. [ND]

ASSOCIATION: Zavod "Serp i Molot" ("Serp i Molot" Plant)

SUBMITTED: 00

ENCL: 00

SUB CODE: MM,TD

NO REF SOV: 005

OTHER: 000

ATD PRESS: 3216

Card 2/2



SOKOL, I.B.; YEVSEYEV, A.S.; PREOBREZHENSKIY, Yu.A.

Principles of organization for mechanized founding according to  
cast patterns. Lit. proizv. no.8:8-13 Ag'55. (MIRA 8:11)  
(Podolsk--Machinery industry) (Foundry machinery and  
supplies)

SOKOL, I.B.; PEPELIN, B.A.; RUTKOVSKIY, V.I.

New developments in the baking of molds for precision casting.  
Lit. proizv. no. 8:4-6 Ag '60. (MIRA 14:2)  
(Precision casting) (Molding (Founding))

MEL'NIKOV, Yu.D.; SOKOL, I.B.

Device for locating self-rectifying damages on overhead power  
transmission lines. Energ. i elektrotekh. prom. no.3:73-74  
Jl-S '63. (MIRA 16:10)

1. Laboratoriya Tsentral'noy sluzhby releynoy zashchity,  
avtomatiki i elektroizmeritel'nykh priborov Kiyevskogo  
energoupravleniya Glavenergo Ministerstva elektrostantsiy SSSR.

SOKOL, I.B.

Automatic line for investment casting. Avt. prom. 31 no.8:38-41  
Ag '65. (MIRA 18:8)

1. Nauchno-issledovatel'skiy tekhnologicheskii institut  
avtomobil'noy promyshlennosti.

AGAPOV, Ye.P. 10X01, J.5.

Automatic accounting and management of a standard shop for precision  
investment casting. Avt.prom. 31 no.10:1-4 0 '65.

(MIRA 18:10)

2. Nauchno-issledovatel'skiy institut tekhnolog'i avtomobil'noy  
promyshlennosti.

L 44200-06 EWT(R)/EWT(J)/T IOP(C) MM  
ACC NR: AF6019445 (A) SOURCE CODE: UR/030 4/66/000/003/0003/0006

AUTHOR: Sorokin, M. F.; Sokol, I. N.

ORG: none

TITLE: Setting of epoxy resins<sup>1/5</sup> with esterified phenolformaldehyde resins

SOURCE: Lakokrasochnyye materialy i ikh primeneniye, no. 3, 1966, 3-6

TOPIC TAGS: phenolformaldehyde, ~~phenolformaldehyde~~ resin, epoxy resin *plastic*

ABSTRACT: Phenolformaldehyde resins<sup>1/5</sup> esterified with allyl bromide can be used as hardening agents for epoxy resins, including low-molecular resins. They are found to be more active hardeners than nonesterified phenolformaldehyde resins. Compound compositions with hardening properties can be produced without solvents.<sup>1/2</sup> Films made of these compositions are found to have high mechanical properties. Orig. art. has: 4 figures and 2 tables. [Translation of authors' abstract] [AM]

SUB CODE: 07/ SUBM DATE: none/ ORIG REF: 003/ OTH REF: 003

Card 1/1 mjs

BELOV, Valeriy Petrovich; SOKOL, I.V., red.; KRASAVINA, A.M., tekhn. red.

[Motor-vehicle tires] Avtomobil'nye shiny. Moskva, Voen.izd-vo  
M-va obor.SSSR, 1961. 82 p. (MIRA 14:12)  
(Motor vehicles--Tires)

S/028/60/000/010/011/020  
B013/B063

AUTHORS: Gorbatenko, I. V., Sokol, I. Ya 16  
TITLE: Experience Gathered in the Production of Stainless Steel  
Sheet  
PERIODICAL: Standartizatsiya, 1960, No. 10, pp 44 - 45

TEXT: This "Letter to the Editor" deals with the standards ГOCT 5582-50 (GOST 5582-50), GOST 5632-51, and ЧMTU 3126-52 (ChMTU 3126-52) which refer to the production of stainless steel sheet and strips. The recommendations made there for heat treatment (GOST 5582-50 (Table 1) and ChMTU 3126-52 (Table 2)) do not always guarantee a high quality of sheet. Therefore, the suggestion is made to alter the heat treatment<sup>16</sup> of steel sheet of the types 1X13 - 2X13 (1Kh13<sup>16</sup>, 2Kh13<sup>16</sup>) and X17H2 (Kh17N2)<sup>16</sup> in such a way that the sheet is cold-rolled, not after annealing, but after drawing. On the strength of published data, supported by practical experience, an optimum ratio of hardness to plasticity in the cold-hardened state can be guaranteed for steel sheet and strips having the lowest content of nickel (8-9%) specified in GOST 5632-51 (Table). Specimens made of steels with  
Card 1/2



Experience Gathered in the Production of  
Stainless Steel Sheet

S/028/60/000/010/011/020  
B013/B063

different nickel<sup>✓</sup> contents have shown that cold hardened metal with a low content of nickel has excellent mechanical properties. This is due to the low stability of austenite and results from the formation of martensitic structure which, in turn, increases the hardness of the metal. There is 1 table ✓

ASSOCIATION: Zavod "Serp i Molot" ("Serp i Molot" Plant)

Card 2/2

SOXOL, I. Ya.

Investigating hardening and embrittlement processes of  
austenite-ferrite stainless steel. Metallog. 1 term.  
obr. met. no. 10:15-21 0 '64.

(LIRA 17:12)

1. Zavod "Serp i molot".

L 31100-65 EWT(m)/EWA(d)/T/EWP(t)/EWP(b) IJP(c) JD

ACCESSION NR: AP5003500

S/0148/65/000/001/0099/0103

28  
23  
B

AUTHOR: Sokol, I. Ya.

TITLE: Phase transformations, structure and properties of two-phase stainless steels

SOURCE: IVUZ. Chernaya metallurgiya, no. 1, 1965, 99-103

TOPIC TAGS: stainless steel, biphasic steel, ferrite austenite steel, steel structure, steel phase transformation, steel mechanical property, steel conductivity

ABSTRACT: The following four ferrite-austenite stainless steel alloys were investigated with regard to their hardness, impact toughness, electric resistivity, magnetic saturation and coercive force depending on heat treatment, titanium content and transformation of austenite into martinsite:

Melt

	C	Cr	Ni	Ti	Al	Si	Mn	N <sub>2</sub>
1	0,10	21,35	5,20	0,96	0,13	0,71	0,61	0,03
2	0,06	20,92	5,15	0,60	0,12	0,53	0,57	0,012
3	0,035	19,27	5,00	1,22	Следы	0,77	0,29	0,02
4	0,12	20,85	5,64	0,50	0,05	0,64	0,55	not determined

Alloys 1-3 with high Ti content gained considerably in strength after one hour annealing at 450-600C. Alloy 4, whose whole Ti content is tied up in carbides, did not gain

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27

L 31100-65

ACCESSION NR: AP5003500

5

strength on annealing; at 900-1000C these alloys showed a ferrite-austenite structure with varying percentage of the gamma-phase #1 15-20, #2 and 3 25-40 and #4 55%. Quenching stabilized the high-temperature properties of these alloys except for #3 where the austenite changed into martensite at room temperature. Aging did not change the microhardness of austenite but considerably increased the hardness of ferrite and martensite. Thus, increased steel strength depends on processes in the alpha-phase and is directly proportional to the Ti content in the solid solution. The hardness of these alloys continuously increased with increasing annealing temperatures (450, 500 and 550C) and the impact strength decreased. Increase in hardness was accompanied by noticeably decreased electric resistivity and decreased lattice period of the ferrite; the coercive force increased. A decreased titanium content in the solid solution has the same result. "The X-ray structural analysis was carried out by S.S. Potanova, while the phase analysis was performed by A.P. Pogodina." Orig. art. has: 3 figures.

1

ASSOCIATION: Zavod "Serp i Molot" ("Sickle and Hammer" plant)

SUBMITTED: 12May64

ENCL: 00

SUB CODE: MM

NO REF SOV: 007

OTHER: 001

Card 2/2

L 32037-65 EWP(w)/EWT(m)/EWA(d)/EWP(t)/T/EPR/EWP(b) Ps-4 IJP(c) MJW/JD/

HM/WB

ACCESSION NR: AP5006482

S/0028/65/C00/002/0039/0040

AUTHOR: Sokol, I. Ya.

TITLE: Elimination of brittleness of ferritic-austenitic steels

SOURCE: Standartizatsiya, no. 2, 1965, 39-40

TOPIC TAGS: stainless steel, ferritic austenitic steel, steel embrittlement, steel intergranular corrosion, steel property/OKh21N5T steel; 1Kh21N5T steel

ABSTRACT: The Serp i Molot plant found that OKh21N5T (EP53) and 1Kh21N5T (EI811) ferritic-austenitic stainless steels are susceptible to embrittlement when slowly cooled or heated in the 450—600C range. The embrittlement is caused by titanium and aluminum which, even at contents within the limits specified by GOST 5632-61, precipitate on the grain boundaries. This, in addition to embrittlement, increases susceptibility to intergranular corrosion. It is suggested to limit the titanium content in 1Kh21N5T steel to 0.5% and in OKh21N5T steel to 0.3% and the aluminum content in both steels to 0.05—0.1%. Orig. art. has: 1 figure. [ND] 27

ASSOCIATION: none

Card -1/2-

L 32037-65

ACCESSION NR: AP5006482

SUBMITTED: 00

ENCL: 00

SUB CODE: MM

NO REF SOV: 000

OTHER: 000

ATD PRESS: 3200

Card 2/2

SOLOV, I.Ya.

Effect of heat treatment on the brittleness of ferritic austenitic  
steels. Metalloved. i term. obr. met. no.3:45-47 Mr '65.  
(MIRA 18:10)

1. Metallurgicheskiy zavod "Serp i molot".

(N) L 12088-66 \_ EWT(m)/EWP(w)/EWA(d)/T/EWP(t)/EWP(z)/EWP(t)/EWA(c) IJP(c)

ACC NR: AP6000609 SOURCE CODE: UR/0129/65/000/012/0033/0036

MJW/JD/HW/JG

AUTHOR: Sokol, I. Ya. 58  
44.55 51  
B

ORG: Serp i Molot Plant (Zavod "Serp i Molot")

TITLE: Effect of phase transformations on the plasticity of austenitic-ferritic steels 44.55 b

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 12, 1965, 33-36

TOPIC TAGS: austenitic steel, ferritic steel, phase composition, plasticity, heat treatment

ABSTRACT: The results of an investigation of the effect of alloy elements and heat treatment on the plasticity of austenitic-ferritic steels  $\Phi$ Kh25N12G2T (EP75) (42.63% Cr, 6.67% Ni, 2.57% Mn, 2.14% Ti, 45.99% Fe)  $\Phi$ Kh25N12TYu (EP87) (43.0% Cr, 8.78% Ni, 0.41% Mn, 2.14% Ti, 45.67% Fe) and  $\Phi$ Kh20N11M3BT (EP89) are presented. It is shown that in steels EP75 and EP87 plasticity sharply decreases at temperatures above 1000°C due to the increase in the amount of ferrite. The embrittlement of metal at 650-900°C is due to the formation of  $\sigma$ -phase; the rate of formation of this phase is particularly fast at 750-800°C in these two steels; at 920°C this rate decreases, owing to the smaller difference between the free energy of  $\delta$ -ferrite and  $\sigma$ -phase. At 960°C a sharp decrease in plastic properties is not observed, thus indicating the

Error:  $\Phi$  is supposed to stand for letter O, however, in the journal Card 1/2 the prefix is zero in all cases. UDC: 669.14.018.84+620.186.1



L 12088-66

ACC NR: AP6000609

7

absence of  $\sigma$ -phase. In EP89 steel the rate of formation of  $\sigma$ -phase is the fastest at 850-900°C (Mo retards the diffusion of the atoms of alloy elements). Cr, Mo and Si accelerate the process of the formation of  $\sigma$ -phase. When the hardening temperature is raised from 1000-1050 to 1200-1250°C, the rate of formation of  $\sigma$ -phase nuclei becomes somewhat retarded. The reason for this is that as the hardening temperature increases the ferritic component is depleted of Cr owing to the redistribution of alloy elements between  $\delta$ - and  $\gamma$ -phases; the formation of an equilibrium nucleus of Cr-rich  $\sigma$ -phase requires more time to assure the diffusion of the large number of atoms of the alloy element. By contrast, the transformation  $\delta \rightarrow \gamma'$  at 950-1150°C occurs very quickly and ends within 1-2 min. At 700-900°C  $\delta$ -ferrite decomposes into  $\gamma'$ - and  $\sigma$ -phases. The exposure of hardened specimens of EP87 steel to 700-900°C for 1-5 min reduces the magnetic saturation and enhances the plastic properties of the steel. The extremely high rate of formation of  $\sigma$ -phase in high-Cr two-phase stainless steels is a consequence of the decomposition of ferrite in the direction  $\delta \rightarrow \gamma' + \sigma$  owing to the considerable free-energy difference between  $\delta$ -ferrite and the mixture of secondary austenite and  $\sigma$ -phase. By contrast, for the high-Cr purely ferritic steels of the Kh25 and Kh28 type, in which the transformation is of the  $\delta \rightarrow \sigma + \delta'$  kind (ferrite depleted of Cr), the decrease in free energy is not so large, and hence the rate of formation of the  $\sigma$ -phase is sharply retarded. In order to endow steels EP75 and EP89 with a considerable plasticity, they must be subjected to drastic water cooling from at least 1000-1050°C. Orig. art. has: 1 table, 5 figures.

SUB CODE: 11, 13/ SUBM DATE: none/ ORIG REF: 002/ OTH REF: 003

Card 2/2

ACC NR: AT6034458

(A)

SOURCE CODE: UR/0000/66/000/000/0213/0218

AUTHOR: Zhetvin, N. P.; Frid, Ya. L.; Kontsevaya, Ye. M.; Sokol, I. Ya.; Lyukovich, V. L.

ORG: none

TITLE: Study of the kinetics of hardening and softening of heat resistant alloys with the aim of choosing the temperature interval for hot plastic deformation and heat treatment

SOURCE: AN SSSR. Institut metallurgii. Svoystva i primeneniye zharoprochnykh splavov (Properties and application of heat resistant alloys). Moscow, Izd-vo Nauka, 1966, 213-218

TOPIC TAGS: heat resistant alloy, metal deformation, metal heat treatment

ABSTRACT: The experiments were carried out on hot rolled samples of alloy Brand EI828 with a thickness of 2-3 mm, and cold rolled samples of alloy Brand EF460 with a thickness of 1.0-1.5 mm. The chemical composition of the alloys is shown in the following table:

Card 1/2

ACC NR: AT6034458

Alloy	C	Mn	Si	S	P	Ni	Cr
EI828. . . . .	0,03	traces	0,11	0,006	0,005	base	9,55
EP460. . . . .	0,03	traces	0,07	0,010	0,008	base	8,85

Alloy	Mo	W	Ti	B	Al	Ce	Nb
EI828. . . . .	8,81	5,01	0,06	0,008	4,50	0,15	-
EP460. . . . .	2,24	-	3,0	-	1,8	-	1,87

The samples were subjected to hardening in a laboratory electric furnace at a temperature of 950-1200°C, and aging at temperatures of 650-1000° with a holding time up to 12 hours. The mechanical properties ( $\sigma_b$ ,  $\delta_5$ , HB,  $a_k$ ) and the microstructure were determined before and after aging. A phase analysis was made of the precipitates which separated out from the hardened and aged samples of alloy EI828, and a dilatometric examination of the samples was made on a differential optical dilatometer. On the basis of the experimental data, a study was made of the kinetics and the temperature interval for the formation of the intermetallic phase of the type  $Ni_3Al$  or  $Ni_3(Ti, Al)$ . The following conclusions were drawn: 1) the decomposition of the solid solutions at aging temperatures starts the minute the aging process starts; 2) a maximum degree of hardening is achieved (at 800°) in an alloy containing 27% of the intermetallic phase; 3) weakening of the aged alloy Brand EP460 is reached on heating to 1050° and above, while for alloy EI828, this temperature is shifted to 1200°.

"The x ray analysis was done by S. S. Potapova, and the analysis of the intermetallic precipitate by A. P. Pogodina." Orig. art. has: 5 figures and 2 tables.

SUB CODE: .11/ SUBM DATE: 10Jun66/ ORIG REF: 004/ OTH REF: 001

CZECHOSLOVAKIA/Diseases of Farm Animals - Diseases Caused by  
Helminths.

R-3

Abs Jour : Ref Zhur - Biol., No 11, 1958, 50204

Author : Vodrazka, J., Berecky, I., Sokol, J., Hanko, J.

Inst : -

Title : The Problem of Using Piperazine for the Treatment of  
Horses.

Orig Pub : Veterinarstvi, 1957, 7, No 9, 273-275

Abstract : The authors conducted tests which revealed that piperazine  
adipate and citrate are 100 percent effective when used in  
doses of 0.25 gr/kg in treating parascariasis in colts.  
These preparations were equally effective against immature  
as well as mature forms of the parasite. Good therapeutic  
results were also obtained with the same preparations in  
treating strongyliasis. They were less effective, how-  
ever, against oxyurosis.

Card 1/1

CZECHOSLOVAKIA

SOKOL, J.; GDOVIN, T.; Veterinary Faculty, College of Agricul-  
ture (VSP, Vetrin. Fakulta), Kosice.

"Effect of Percutaneous Application of Trichlorophon on the Health  
of Cattle in Respect to Cholinesterase Activity."

Prague, Veterinarni Medicina, Vol 11, No 12, Dec 66, pp 721-726

Abstract [Authors' English summary modified]: Influence of a  
single application of a 5% emulsion of trichlorophon in the form  
of Hypodermin was investigated in 30 head of cattle. The average  
inhibition caused by a dose of 50 mg per kg of weight was 34.1%.  
Only in one case did the inhibition have a deleterious health ef-  
fect. 1 Figure, 2 Tables, 7 Western, 9 Czech references. (Man-  
uscript received 31 Mar 66).

1/1

SKOL, Joanna

Kaw and prepared tanning dust as a protein source in sheep feeding.  
Zesz probl post nauk roln no. 64:123-27 '64.

1. Department of Animal Feeding of the School of Agriculture,  
Krakow, Department of Feeding of the Institute of Zootechnics,  
Krakow. Head of Department: Dr. R. Sys.

Sokol, L. -

3000

*Chem* Alumina: preparation, activation, and evaluation by physical-chemical methods. L. Sokol. Chem. Průmysl 5, 408-602(1955).—Reaction conditions have been studied for the prepn. of various hydrates of  $Al_2O_3$ , especially influence of pH and pptn. temp. of Na aluminate and other Al salts. The primary product is always a gel, the aging of which is influenced especially by the pH, temp., and length of contact with the mother liquor. Also the ratio Na:Al in case of Na aluminate influences not only the stability of the aluminate itself but also the appearance and degree of aggregation of the pptd. hydrates. The active aluminas prepd. from various gels and hydrates by activation in the current of air at 400-600° differ from each other not only by the size of surface area (nonspecific) but mainly by distribution of the pores. L. A. Helwich

Sokol, L.

3088

*Ch* Determination of pyrocatechol in technical pyrocatechol fractions with an infrared spectrophotometer. O. Kunc and L. Sokol. Chem. Průmysl 6, 31(1958).—An application of base-line method for the detn. of pyrocatechol in tech. distillates from the phenol-sulfon ext. with 10-45% pyrocatechol content is described. L. A. Helwich

2

RM

SOKOL, LUDYIK

Investigation of the decomposition of thiotungstates by  
differential thermal analysis, Ludvik Sokol, Collection  
Czech. Chem. Commun., 21, 1140-5 (1956) (in German).  
See C.A. 50, 10537d. E. J. C.

3

PM  
MTT

fra



SOKOL, L.

✓ 1200. Investigation of the decomposition of thio-  
tungstates by differential thermal analysis. I.

Sokol (Phys. Chem. Lab. Zlatá Hora, Czechoslovakia). *Chem. Listy*, 1956, 50 (3), 711-715.

An automatic apparatus for differential thermal analysis is described. On the basis of experimental results, the course of thermal decomposition of ammonium tetrathio-tungstate is discussed and the following scheme of the reaction is proposed— $(\text{NH}_4)_2\text{WS}_4 \rightarrow 2\text{NH}_3 + \text{H}_2\text{S} + \text{WS}_3$ ;  $\text{WS}_3 \rightarrow \text{WS}_2 + \text{S}$ . By using this method, mixtures of dithio- and tetrathio-tungstates can be determined with an accuracy within  $\pm 5\%$ . J. ZYKA

*Chem*

*mx*

DOROL, L.

Automatic apparatus for differential thermal analysis. p. 177.  
(SILIKATY, Vol. 1, No. 2, 1957, Praha, Czechoslovakia)

SD: Monthly List of East European Accessions (SEAL) LC, Vol. 6, No. 12, Dec 1957. Uncl.

SOKOL, L.

✓ 3537. Gas-adsorption chromatography with thermal conductivity indication. L. Sokol (Stalinovy závody n.p. Záluží, Czechoslovakia). *Chem. Průmysl*, 1967, 7 (4), 189-190.—The gas chromatography of  $C_4$  to  $C_6$  hydrocarbons on alumina, with hydrogen as carrier gas, is described. The eluted components are detected by thermal conductivity and automatically recorded by a millivoltmeter (0 to 10 or 0 to 50 mV). The composition of the analysed mixture can be directly computed from the area of the individual elution curves. J. BÖSWART

RM R 606

Distr: 4E2c(j)/4E3d

7  
 Analysis of phenols and hydrocarbons by means of gas-liquid chromatography. 7 Ludvik Sokol (Stalinovy závody, Závody, Czech.). Chem. listy 52, 1726-34 (1958). An all-glass app. for gas-liquid chromatography with W wire cond. indicator wires is described. Crushed porous bricks and alumina were used as carriers, paraffin, methylsilicone oil (I), phenylmethylsilicone oil, dibutyl phthalate, o-nitrophenyl, and 1-naphthyl 2-naphthylsulfone (II) as liquid phase. The app. was tested on the sepn. of aliphatic, alicyclic, and aromatic hydrocarbons. Isomeric phenols were successfully sepd. on I contg. 5-20% II. Under these conditions o-MeC<sub>6</sub>H<sub>4</sub>OH was sepd. quantitatively. M. Hudlický

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SOKOL, L.

Combination of gas chromatography and absorptionspectrum methods for analysis of organic mattera. I. Description and properties of preparative chromatographic columns. Coll Cz chem 25 no.3:906-911  
Mr '60. (EEAI 9:12)

1. Forschungsinstitut, Stalinovy zavody, Zaluži.  
(Chromatography)  
(Absorption spectra)  
(Organic compounds)

SOKOL, L.; KVAPIL, Z.; KARAS, V.

Combining the gas chromatography and the absorption spectra methods for the analysis of organic substances. Part 2: Identification of ketones, aromatic carbohydrates and nitriles in the extracts from carbonization benzene. Coll Cz Chem 26 no.9:2278-2288 '61.

1. Forschungsinstitut für die chemische Verwertung der Kohle, Zalužice v Krusných Horách.

(Chemistry, Organic) (Chromatography)  
(Absorption spectra)

SOKOL, Ludvik

Dilatometry as a control method for some ceramic materials and products. Silikaty 6 no.4:366-377 '62.

1. Vyzkumny ustav praskove metalurgie Sumperk, pracoviste Vestec u Prahy.

10.51, 10.52

Contribution to the study of porcelain glazes. Silikaty 3  
no.1119-26 '64.

1. Vyskumny ústav pro průzkoumání metalurgii Šumperk, pražská  
Vědecká a Učebná.



E 13251-65 EWP(e)/EWT(m)/EWA(d)/EWP(t)/EWP(k)/EWP(b) — Pf-4 JD/HW  
Z/0000/64/000/000/0141/0152

ACCESSION NR: AT4046759

AUTHOR: Sokol, L.

TITLE: Extrusion of metal fibers 4

SOURCE: Medzinarodna konferencia o praskovej metalurgii. 1st, 1962. Problemy praskovej metalurgie; sbornik vedeckych prac (Problems in powder metallurgy; collection of scientific papers). Bratislava, Vyd-vo SAV, 1964, 141-152

TOPIC TAGS: tensile strength, fiber orientation, sintered metal, nonsintered metal, experimental result

ABSTRACT: The author discusses the principles involved in the extrusion of metal fibers, the effect of the fiber orientation on the tensile strength, and the difference in mechanical strength of sintered and non-sintered metal fibers and metal powder compacts. He also presents the experimental results of this investigation. Orig. art. has: 6 formulas, 2 tables, and 8 figures.

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L 13251-65

ACCESSION NR: AT4046759

ASSOCIATION: Vyzkumny ustav pro praskovou metalurgii, Vestec (Research Institute of Powder Metallurgy)

SUBMITTED: 00

ENCL: 00

SUB CODE: MM

NO REF SOV: 002

OTHER: 006

Card 2/2

L 37055-66 EWP(k)/EWP(e)/EWP(t)/ET1 IJF(c) JD/HW

ACC NR:AP6007157

SOURCE CODE: CZ/0091/65/000/001/0017/0031

AUTHOR: Sokol, Ludvik (Engineer)

39

B

ORG: VUPM

TITLE: Effect of the decomposition temperature of nickel formate on the properties of nickel powders /

SOURCE: <sup>27</sup> Pokroky praskove metalurgie VUPM, no. 1, 1965, 17-31

TOPIC TAGS: sintering, sintered alloy, nickel compound, nickel, porosity, *powder metallurgy, powder metal property, powder metal*

ABSTRACT: The article reports on the investigation of the effect of preparation temperature on the properties of nickel powders and of the technological properties of "subsieve" parts of nickel powders (- 0.04mm). The investigation was undertaken because in the production technology of nickel parts with controlled porosity, for example, electrodes for electrochemical fuel cells, it is necessary to investigate in detail the possibility of making a suitable nickel powder from the most economical raw material available in the Czechoslovak Peoples' Republic. In particular it was necessary to determine the effect of preparation temperature of nickel powders on particle size, and to determine the relation between the properties of powders of different particle size, and the properties of sintered and unsintered stamped parts

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L 37055-66

ACC NR: AP6007157

from these powders. The initial raw material for the preparation of these powders was chemically pure nickel formate. It was found that the properties of the nickel powder are dependent on the decomposition temperature of the nickel formate and the average pore size in the sintered stamped parts which were prepared by the same technological method. Orig. has 8 figures, 5 formulas and 3 tables.

SUB CODE: 11, 13/ SUBM DATE: none/ ORIG REF: 021/ SOV REF: 003/ OTH REF: 001

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Card 2/2

UCHANTKINA, Z.V.; ALEKSEIEVA, I.G.; BOKAL, V. . . . SAKAL, I.S.

Dynamic evaluation of the production of viscose cellulose for  
simple rayon without hot refining. Trudy ITITSBP no.12:130-134  
'64. (MIRA 18:8)

AUTHORS:

Bliznyukov, V. I., Sokol, L. S.

SOV/79-29-2-46/71

TITLE:

Absorption Spectra and Structure of the Substitution Products of Quinoline Which Serve as Initial Products for Anti-Malaria Remedies (Spektry pogloshcheniya i stroyeniye zameshchennykh khinolina, sluzhashchikh iskhodnymi produktami dlya protivomalyariynykh sredstv). VI. On the Interaction Between the Substituents in the Ions of 8-Aminoquinoline, 6-Methoxy-8-Aminoquinoline and Some of Their Derivatives (VI. O vsaimodeystvii zamestiteley v ionakh 8-aminokhinolina, 6-metoksi-8-aminokhinolina i ikh nekotorykh proizvodnykh)

PERIODICAL:

Zhurnal obshchey khimii, 1959, Vol 29, Nr 2, pp 575-581 (USSR)

ABSTRACT:

As a result of earlier investigations (Refs 1,2) the authors observed the similarity between the quinoline ion, with regard to the electron structure, and o-aminostyrene or o-aminoacetophenone. This was found on the basis of the comparative absorption spectra in the ultraviolet range. It could be expected that the ions of 8-aminoquinoline, 6-methoxy-8-aminoquinoline and their derivatives would behave in the same way as the corresponding benzene derivatives. On the basis of absorption-spectrum analysis the following results were found (6 figures): the combined spectrum of the charged ion of 8-aminoquinoline as that of a benzene derivative with an electron-

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SOV/79 29-2-46/71

Absorption Spectra and Structure of the Substitution Products of Quinoline Which Serve as Initial Products for Anti-Malaria Remedies . VI: On the Interaction Between the Substituents in the Ions of 8-Aminoquinoline, 6-Methoxy-8-Aminoquinoline and Some of Their Derivatives

attracting and two electron-repelling substituents in the positions 1,2,3 was explained. In this connection it was found that the ring nitrogen takes part in electron transitions as a substituted amino group by entering reaction once with the electron-attracting vinyl group and then with the electron-repelling 8-NHR group through the  $\pi$ -electron system of the benzene ring. The combined spectrum of the charged ion of 6-methoxy-8-aminoquinoline as that of a benzenic derivative with an electron-attracting and three electron-repelling substituents in the positions 1,2,3,5 was also explained. In this connection it was found that the ring nitrogen is capable of taking part in electron transitions once as a substituted amino group and then as a positively charged nitrogen. In the first case the conjugation of the amino group takes place with the electron-attracting vinyl group, while in the second case the conjugation of nitrogen takes place with the 8-NHR group through the  $\pi$ -electron system of the benzene ring. The salt formation of the 8-NHR group of 8-aminoquinoline causes the return to the spectrum of the quinoline ion and

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SOV/79-29-2-46/71

Absorption Spectra and Structure of the Substitution Products of Quinoline Which Serve as Initial Products for Anti-Malaria Remedies. VI. On the Interaction Between the Substituents in the Ions of 8-Aminoquinoline, 6-Methoxy-8-Aminoquinoline and Some of Their Derivatives

that of 6-methoxy-8-aminoquinoline to the spectrum of the 6-methoxyquinoline ion.-There are 6 figures and 15 references, 12 of which are Soviet.

ASSOCIATION: Khar'kovskiy farmatsevticheskiy institut  
(Khar'kov Pharmaceutical Institute)

SUBMITTED: November 2, 1957

Card 3/3



AUTHORS: Bliznyukov, V. I., and Sokol, L. S. 79-12-17/43

TITLE: Absorption Spectra and Structure of Quinoline Substituents  
Serving as Basic Material for the Production of Remedies  
Against Malaria.  
(Spektry pogloshcheniya i stroyeniye zameshchennykh khinolina,  
sluzhashchikh iskhodnymi produktami dlya protivomalyariynykh  
sredstv)  
IV. Absorption Spectra and Structure of Neoplasmochin  
(Spektry pogloshcheniya i stroyeniye neoplazmikhina).

PERIODICAL: Zhurnal Obshchey Khimii 1957, Vol. 27, Nr 12, pp. 3254-3260  
(USSR)

ABSTRACT: The absorption spectra of 8- (5-diethylamino-2-pentyl)amino-  
quinoline (of neoplasmochin) proved as complicated. For their  
explanation the absorption spectra of 8 - aminoquinoline were  
investigated. The effect of the solvents on the absorption  
spectra of 8 - (5-diethylamino-2pentyl) aminoquinoline (of  
neoplasmochin) and the 8 - aminoquinoline were investigated.  
The spectrum of neoplasmochin in tetrachloromethane solution  
has a resemblance to the spectra of 8-aminoquinoline and their  
orthobenzenederivates which have one substituent attracting  
electrons and one repulsing them in the ring, on which occasion

Card 1/2

Absorption Spectra and Structure of Quinoline Substituents 79-12-17/43  
Serving as Basic Material for the Production of Remedies Against Malaria.

a strip occurs on the described spectrum which occurs also in that of pyridin. Under the influence of hexane and the dipole solvents the pyridine-strip of the neoplasmodin disappears and a strip occurs on its orthobenzene spectrum like it is the case with the orthobenzenederivatives with substituents repulsing two electrons. There are 3 figures, 4 tables, and 14 references, 10 of which are Slavic.

ASSOCIATION: Khar'kov Pharmaceutical Institute  
(Khar'kovskiy farmatsevticheskiy institut).

SUBMITTED: October 1, 1956

AVAILABLE: Library of Congress

1. Quinolines - Spectra
2. Quinolines - Structural analysis
3. Malaria - Therapy

Card 2/2

BLIZNYUKOV, V.I.; SOKOL, L.S.; SOLONSKAYA, N.T.

Interaction of functional groups in amino derivatives of benzene containing a methoxy group. Zhur.ob.khim. 34 no.1:329-331 Ja '64.  
(MIRA 17:3)

1. Khar'kovskiy farmatsevticheskiy institut.

SOKOL, M.S.

[Concise manual on the clinical examination of patients] Korotkyi  
posibnyk do klinichnoho doslidzhennia khvoroho. Kyiv, Derzh. med.  
vyd-vo URSR, 1956. 119 p. (MLRA 10:2)  
(DIAGNOSIS)

~~SOKOL, O. N.~~

Wearing qualities of chain drives made of high-strength cast iron.  
Nauch. trudy Inst.mash. i sel'khoz.mekh. AN URSR 4:81-91 '54.  
(Cast iron) (MLRA 9:9)

SOKOL, P.P.

SOKOL, Pavel Fedorevich, kand.biol.nauk; TAIROVA, V.N., red.; GUREVICH,  
M.M., tekhn.red.

[Storage of potatoes] Khranenie kartofelis. Moskva, Gos. izd-vo  
sel'khoz. lit-ry, 1957. 221 p. (MIRA 11:2)  
(Potatoes--Storage)

SOKOL, P.F., kand. biol. nauk.

Thermal conditions and methods of storing potatoes. Zemledelie 5  
no.10:67-77 0 '57. (MIRA 10:11)

1. Ukrainskiy nauchno-issledovatel'skiy institut ovoshchevodstva i  
kartofelya.

(Ukraine--Potatoes--Storage)

SOKOL, P.F., kand.biol.nauk.

Storage of potatoes in small trench silos. Nauka i pered.op.v  
sel'khoz. 7 no.9:52-54 S '57. (MIRA 10:10)

1. Ukrainskiy nauchno-issledovatel'skiy institut ovoshchevodstva  
i kartofelya.  
(Potatoes--Storage)



SOKOL, Pavel Fedorovich, kand. biolog. nauk; SNIZHKO, V.L., dotsent, red.;  
~~TRUBOLIEVA, M.V.~~ [Trubolieva, M.V.], red.

[How to store potatoes on collective and state farms] I Ak  
zberihaty kartopliu v kolhospakh ta radhospakh. Kyiv, 1958.  
38 p. (Tovarystvo dlia poshyrennia politychnykh i naukovykh  
znan' Ukraini'koi RSR. Ser.3. no.19) (MIRA 12:2)  
(Potatoes--Storage)

USSR / Cultivated Plants. Potatoes, Vegetables, Melons. M-2

Abs Jour : Ref Zhur - Biologiya, No 2, 1959, No. 6264

Author : Sokol, P. F.

Inst : Not given

Title : Respiration Rate of Potato Tubers During Storage

Orig Pub : Agrobiologiya, 1958, No 2, 66-71

Abstract : The respiration rate of tubers during 6 months of storage was determined in a desiccator (Ella variety). The respiration of tubers in cellar at a temperature of 11.5 - 16° was least slowed down. One kg of tubers exhaled 2 - 3 mg of CO<sub>2</sub> in an hour. Exhalation of CO<sub>2</sub> in a laboratory at 15 - 18° increased up to 7 mg in December and 11 mg in March. The respiration of the tubers sown in the spring was more

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APPROVED FOR RELEASE: 08/25/2000

USSR / Cultivated Plants. Potatoes, Vegetables, Melons. M-2

Abs Jour : Ref Zhur - Biologiya, No 2, 1959, No. 6264

intensive in a refrigerator than in a cellar; the respiration of tubers sown during the summer was more intensive than in the laboratory. The exhalation of CO<sub>2</sub> at the end of the storage period reached 12.2 mg. Under the influence of high concentrations of CO<sub>2</sub>, the eyes dried up and the lenticels became affected. The loss of weight was 7% in laboratories. In cellars, it was 4.7% among tubers sown in the spring and 2.5% among tubers sown in the summer. It was 0.7% in desiccators, when they were covered with earth, and 2.7% in refrigerators. The loss of weight in experimental cells was 10% when the humidity of the air was 100%. The tubers contained 5% sugar in refrigerators, 1.2% in cellars,

Card 2/3

SOKOL, P.F. Dr. Agri Sci -- (diss) "Scientific bases for the storage of potatoes and their practical application," Kharkov 1960, 42 pp, 200 cop. (Kharkov Agricultural Institute im V. V. Dokuchayev) (KL, 42-60, 115)

SOKOL, P.F., doktor sel'khoz. nauk; TAIROVA, V.N., red.; DEYEVA,  
V.M., tekhn. red.

[Potato storage] Khranenie kartofelia. Izd.2., ispr. 1  
dop. Moskva, Sel'khozizdat, 1963. 255 p.  
(MIRA 17:2)